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# Gateway Cities ITS Integration Plan for Goods Movement

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## Executive Summary

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## PROJECT BACKGROUND

The Gateway Cities Council of Governments (GCCOG), in support of cleaner air and reduced congestion, is interested in furthering technology applications and connections within the transportation system. By nurturing technology in this field, the COG believes that increased efficiencies, in the movement of goods in particular, can be realized through the southeast Los Angeles area resulting in a better quality of life for its 2.5 million residents. These technologies, known as Intelligent Transportation Systems (ITS), have been proven to work better and result in greater benefits to drivers when connected to one another to share more information. The purpose of this ITS Integration Plan for Goods Movement is to determine where technologies applied to transportation with an emphasis on goods movement that can have a positive impact and where they should be connected to provide a safer and more mobile transportation system for residents and business owners alike.

This ITS Integration Plan for Goods Movement focuses on goods movement. The private sector plays a critical role in developing and implementing solutions that will be effective. Numerous regional and statewide studies and plans have looked at the specific issue of freight and the importance of freight mobility to the regional, state and national economy. Likewise, plans and programs are in place in the region and state to address the application of technologies to managing the transportation network overall. This Integration Plan combines both perspectives to address how technologies (ITS) can be applied to mitigate the challenges associated directly with the goods movement industry in the Gateway Cities Region. Key to the success of this plan, and inherent in the underlying philosophy of developing it, is a coordinated approach to planning, operations, and business and policy decision making that elevates the private sector's role to equal and important partner with public sector agencies. **Figure ES-1** demonstrates that in taking this coordinated, partnership approach, greater benefits can be realized for the region. The benefits for this ITS Integration Plan for Goods Movement are realized through:

- **Coordinated, Active Operations** – The day-to-day business of both the public and private sector is improved through operations that are coordinated with the appropriate parties and actively monitored for performance and future improvements.
- **Technology Infrastructure** – The deployment of advanced technology infrastructure, such as a communication backbone or field equipment to monitor Port terminals, provides information to both the private and public sector.
- **Business Decision/Information Flow** – The private sector uses information to make more informed business decisions, which not only impact their bottom line, but increase efficiency.
- **Public Decision/Information Flow** – The public sector uses information to make decisions that impact their constituents and to guide infrastructure investments.
- **Policy and Investment Decision-Making** – Both the private and public sectors work together to make Policy and Investment decisions based on the information flows specific to their industry by working together toward a common goal and mutually beneficial partnership.

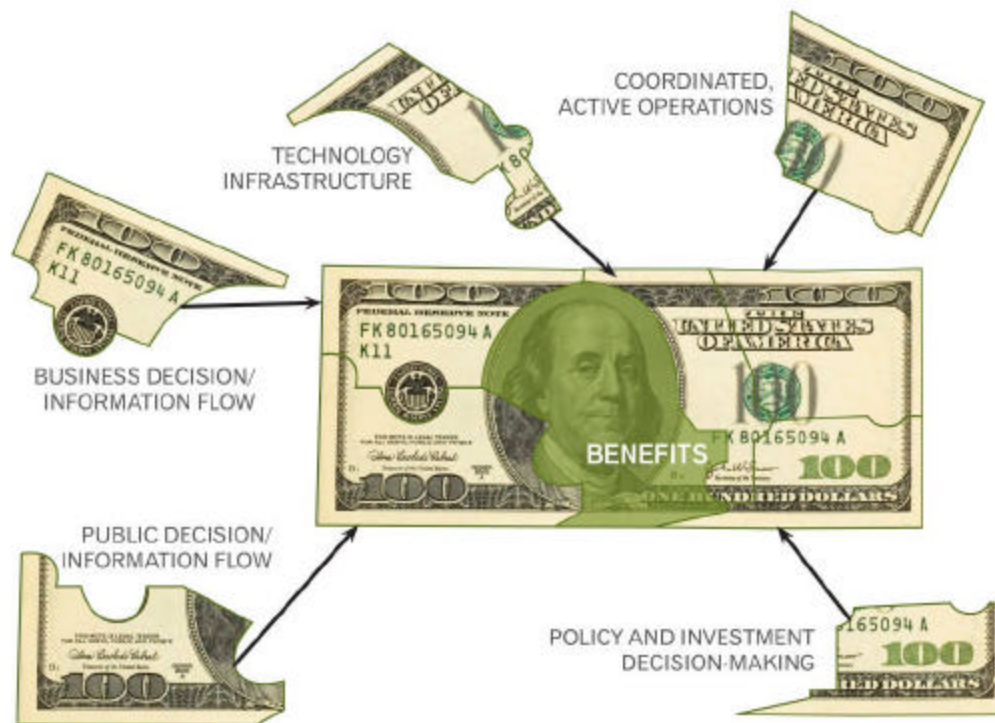
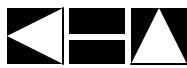


Figure ES-1 – ITS Integration Plan for Goods Movement Implementation Components

## PROJECT OBJECTIVE

As agreed upon by the stakeholders (listed in the following section), the objectives of this ITS Integration Plan for Goods Movement were to:

- Identify existing and planned ITS projects and systems in the region and assess their ability to meet the unique needs of freight and goods movement;
- Summarize the specific needs of freight and goods movement stakeholders;
- Identify and incorporate public and private sector stakeholders into the plan development process;
- Document key initiatives that could support safer and more efficient goods movement;
- Identify opportunities and gaps in current agency ITS plans and programs;
- Develop potential strategies and solutions for innovative applications, partnerships and projects;
- Identify where updates to regional ITS architectures should focus to best integrate freight and goods movement with transportation/traffic management; and
- Summarize findings in an ITS Integration Plan for Goods Movement that identifies deployment, partnerships, business model considerations, and potential timeframes to best leverage investment and involvement by the public and private sectors.

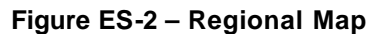


## STAKEHOLDERS AND STUDY AREA

The ITS Integration Plan for Goods Movement for the Gateway Cities subregion elevates private sector goods movement involvement and input to primary importance. Stakeholders from both public entities (such as the ports; federal, state and local governments and transportation agencies; and coalitions) and private sector stakeholders (such as drayage companies, rail operators, terminal operators, and goods movement industry organizations) were sought out to participate in the project, to provide input and insight into establishing their transportation technology needs and issues. Some of these stakeholders were interviewed in person and all were invited to participate in regular working group meetings. The stakeholders invited to participate in the project are listed below. All except #4, 6, 8, 10, 11, 29, and 30 participated in one or more interviews or meetings.

- |   |  |
|---|--|
| 1. Automobile Club of Southern California (AAA)         | 19. Gateway Cities Council of Governments (GCCOG)                    |
| 2. Addison Burnet Group, Inc.                           | 20. Honolulu Freight Service   |
| 3. Ability Tri-Modal Transportation Services            | 21. International Warehouse Logistics Association (IWLA)             |
| 4. Alameda Corridor East (ACE) Construction Authority   | 22. LA County Department of Public Works (LADPW)                     |
| 5. BGM Consulting representing GCCOG                    | 23. Los Angeles County Metropolitan Transportation Authority (Metro) |
| 6. Burlington Northern Santa Fe (BNSF)                  | 24. Metrans (USC)  |
| 7. California Trucking Association (CTA)                | 25. Orange County Transportation Authority (OCTA)                    |
| 8. South Coast Air Quality Management District (SCAQMD) | 26. Pacer Distribution Services, Inc.                                |
| 9. California Highway Patrol (CHP)                      | 27. Port of Long Beach (POLB)  |
| 10. Caltrans District 12                                | 28. Port of Los Angeles (POLA)                                       |
| 11. Caltrans District 8                                 | 29. Riverside County Transportation Commission (RCTC)                |
| 12. Caltrans District 7                                 | 30. San Bernardino Associated Governments (SANBAG)                   |
| 13. Caltrans Headquarters                               | 31. Southern California Association of Governments (SCAG)            |
| 14. City of Downey                                      | 32. Transport Express  |
| 15. City of Long Beach                                  | 33. Total Transportation Services, Inc.                              |
| 16. City of Los Angeles                                 | 34. Union Pacific  |
| 17. Federal Highway Administration (FHWA)               | 35. West Coast Corridor Coalition                                    |
| 18. Federal Maritime Administration (MARAD)             |  |

The study area is depicted in Figure 2.



Numerous transportation technology projects and programs are in place or programmed to be installed in Gateway Cities and Southern California in the near-term to better manage transportation and provide traveler information to the traveling public. This ITS Integration Plan builds upon this existing infrastructure and provides for connectivity among existing and potential future programs in order to best capitalize on this existing investment.

Fundamental objectives were defined that, when met, will address the specific needs described above. The ITS program will seek to achieve these objectives through proposed projects and connections to existing systems. The fundamental objectives are listed below:



1. **Fill Infrastructure Gaps** – Completing detection and communications on freeways and arterials throughout the Subregion should be a top objective. A variety of technologies will accomplish the coverage and the data will be used to develop a plethora of information to be shared with trucks, dispatchers, rail operators, public agencies, and the general public.
2. **Arterial Travel Information** – Very few places in the country have attempted a full scale arterial travel time program. This concept would require extensive detection and would be tailored to determining and sharing information regarding delays on key allowable arterial truck routes.
3. **Truck Data** – Numerous projects are recommended to collect anonymous truck-specific data such as speeds, idling and other related truck information (all anonymous).
4. **Freight-Focused Traveler Information** (on-board and web-based) – Several projects will provide information valuable to trucks and truck companies back to drivers and dispatchers such as real-time truck-experienced delays on freeways and arterials, turnaround times at terminals and queue delays behind terminal gates, and real time dynamic routing for trucks.
5. **Drayage Turnaround Times and Queue Detection** – Data collected will be used to fill in much needed gaps in information for trucks regarding how long it will take to pick-up containers at the Ports of Long Beach and Los Angeles.
6. **Comprehensive Goods Movement Scheduling System** – Though likely to be institutionally challenging to deploy, a scheduling system that relies on real-time container tracking has the potential to improve air quality, reduce congestion, and improve the bottom line for trucking companies and rail companies alike.
7. **Strategy for Truck Safety and Credentialing** – To improve safety, stakeholders are working to revamp the truck inspection system through improved policy and increased operations in the Gateway Cities Area. Technology will likely play a major role in the solution, given the lack of real estate available for building new inspection stations in the subregion.

## PROPOSED PROJECTS

Projects are defined in terms of functionality to, combined; achieve the fundamental objectives outlined above. Many stakeholders were involved in developing the list of potential projects. However, some of the concepts described below require additional analysis to further define functionality and to determine feasibility.

The following list of projects has been defined functionally for further analysis:

1. Freeway Detection Infrastructure
2. Arterial Infrastructure
3. Arterial Travel Times
4. Queue Detection And Terminal Turn Times
5. Goods Movement Transportation Management
6. Truck Fleet Communications Program
7. Comprehensive Performance Monitoring System

8. Existing Sources – Truck Fleet Data Collection And Agreements
9. Port Reverse 911 Emergency Notification Call System
10. Comprehensive Goods Movement Scheduling System (Container Tracking)
11. Truck Parking Coordination
12. Vehicle Enforcement Strategies, Systems and Sites Study
13. Congestion Pricing Initiatives
14. Integration And Policy Task Force

## **COORDINATED CONCEPT OF OPERATIONS AND INTEGRATION PLAN**

In order to effectively achieve the level of change in the transportation network and goods movement industry that is sought by the development of this technology-based program, many projects and programs must work together on a day-to-day basis. It is imperative that multiple public sector agencies, currently in the business of traffic operations and traveler information coordinate their efforts in a regular and proactive manner. It is also critical that private industry engage in the development of daily operating procedures in order for the program to be truly effective. The concept of operations describes how the program is envisioned to operate in relation to its many and varied stakeholders from private industry and the public sector in order to realize its full potential. **Figure ES-3** depicts the Integration Plan (or high level program architecture).

### **1.1 Public Sector Roles**

- Plan for, develop and operate programs designed to address GM issues;
- Lead integrated, coordinated operations for current and future projects;
- Engage private sector as key partner in project development;
- Plan for, develop, and operate (as applicable) future projects to address goods movement issues and needs; and
- Fund (capital and operations) or facilitate funding for recommended projects.

### **1.2 Private Sector Roles**

- Involvement in project planning and development;
- Input to operational scenarios and procedures;
- Use of programs and feedback into ongoing monitoring and adjustment of operations for more effective outputs;
- Active reporting and feedback on the use of and value gained from various projects; and
- Ongoing involvement in policy and investment decisions.



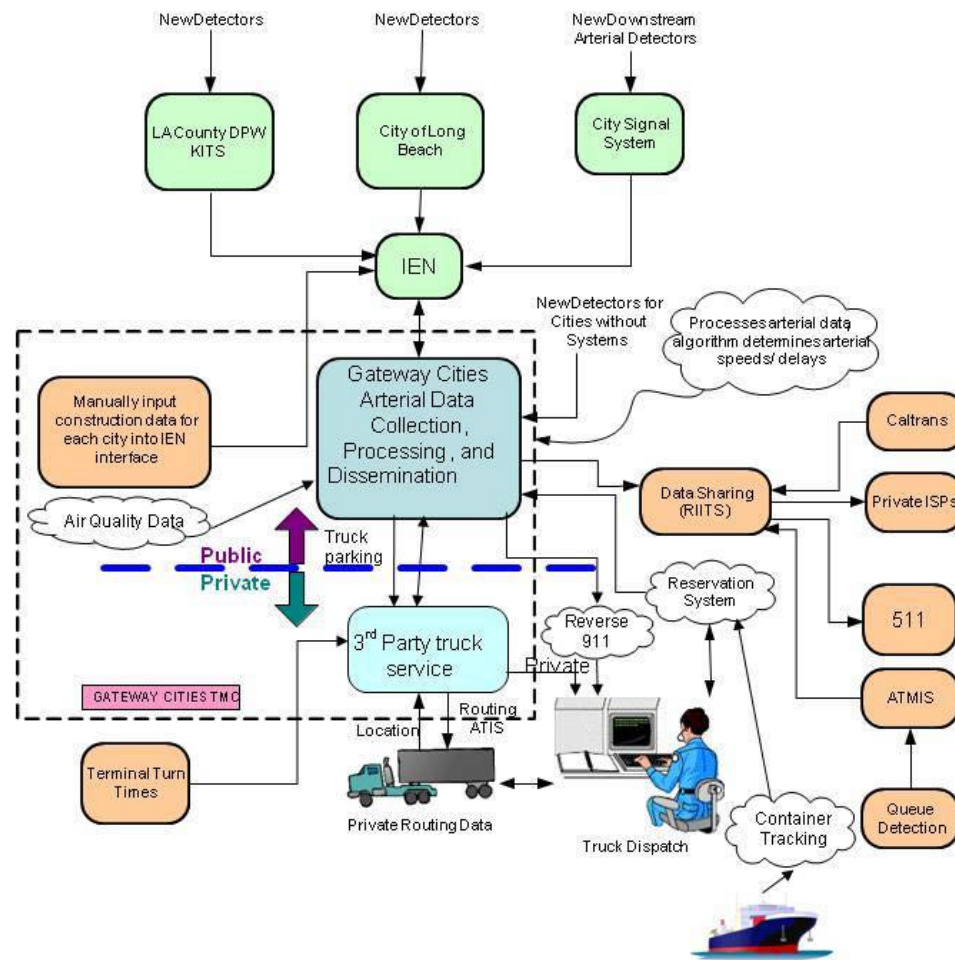
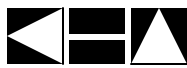


Figure ES-3 – Integration Plan (High Level Program Architecture)

## BUSINESS PLAN CONSIDERATIONS

Many of the priority strategies outlined in this report as part of this Integration Plan present some key opportunities to implement some very high impact, although ‘non-traditional’ solutions. As a result, approaches to planning, partnering, integrating and delivering those services may not fit within some of the traditional public sector processes and roles. Issues such as public-private partnerships for funding, operations and use of projects; data purchase and use for enhancement of truck-specific traveler information projects; and unique public-public partnerships are among topics to be considered in further detail in the subsequent business plan development.

## NEXT STEPS

This section describes the next steps toward properly developing, implementing, and continuously monitoring the program to accomplish improvements such as improved air quality, reduced congestion, and increased container throughput in the Gateway Cities region.



- **Conduct Feasibility Analysis.** The first step will be to conduct a comprehensive feasibility study that will evaluate each potential ITS project or program to determine feasibility; phasing; expected benefits; risks; capital, operation, and maintenance costs; responsibilities; etc. and identify funding sources and opportunities. One of the main purposes of this comprehensive feasibility study is to provide the information so the prospective investors and partners can make well-informed decisions about their participation and willingness to assist with funding and operations.
- **Expand and Continue the ITS Working Group.** The ITS Working Group will continue to play a key role in developing projects, contributing to operational strategies, monitoring project and system performance, and advising on policy and investment. For this group of public and private partners, additional stakeholders such as terminal operators, air quality agencies, shipping companies, ground-freight companies, and potentially peer public agencies in other parts of the country would be valuable. This next phase should, once the stakeholders list is expanded, re-visit the proposed ITS projects included in the ITS Integration Plan and consider any additional (or promising) projects that this expanded group develops.
- **Update and refine recommended ITS projects.** Short-term projects require moving into the next steps of design, technology selection, and business and operations planning. Long-term concepts require further stakeholder involvement in defining functionality and performance objectives prior to moving into design and business planning steps.
- **Procurement options.** With a champion agency identified, each project requires a specific procurement approach and implementation strategy. This would include funding source identification and security for both capital and operations phases.
- **Institutional Arrangements.** Partnerships and commitments of both public agencies and private industry will be needed in order to implement the identified ITS projects. These arrangements would include intent to participate as users; business partnerships for funding, deployments, and operations; joint operational strategies; performance plans; and similar commitments to the ongoing success of the program.
- **Business Plan.** The Business Plan discussed previously needs to be a major part of these next steps. The information generated as a part of the other next steps tasks will be consolidated into this business plan which will serve as the foundation to move ITS projects forward. This business plan will be developed, as was the case with this ITS Integration Plan, with the ITS Working Group. This Business Plan will become the ITS Implementation Plan for Goods Movement in this area. The Business Plan will include as a minimum:
  - Project Costs (capital, initial, ongoing, and life cycle) based on the comprehensive feasibility study for each of the ITS projects and programs
  - Identify lead agency(ies) to implement the business plan
  - Non-monetary benefits to the public (performance monitoring metrics previously discussed will be used)
  - Projected revenues/income and other financial incentives and benefits
  - Risks to all parties, and potential risk-management strategies
  - Detailed plan (including phasing to implement)